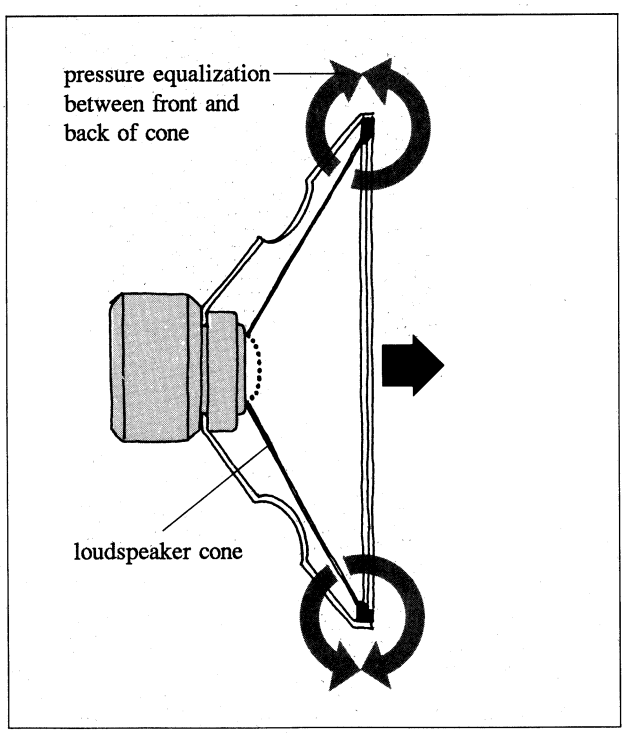
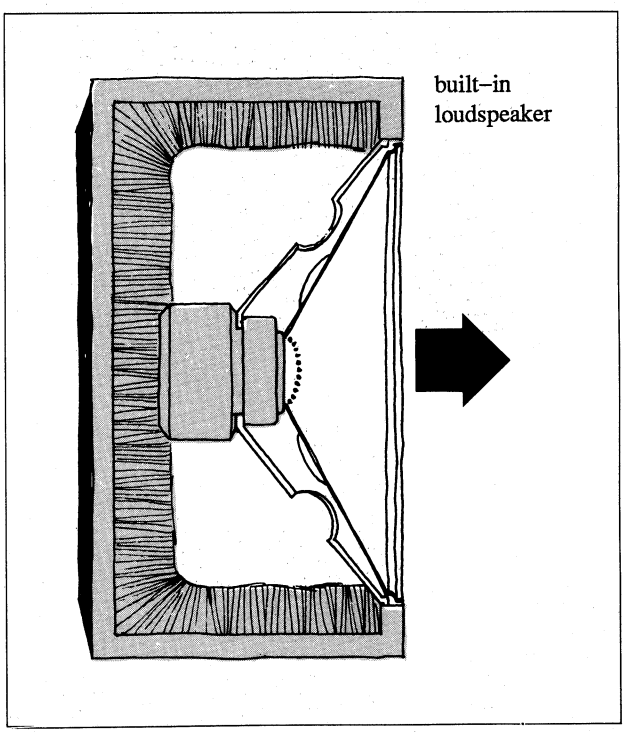
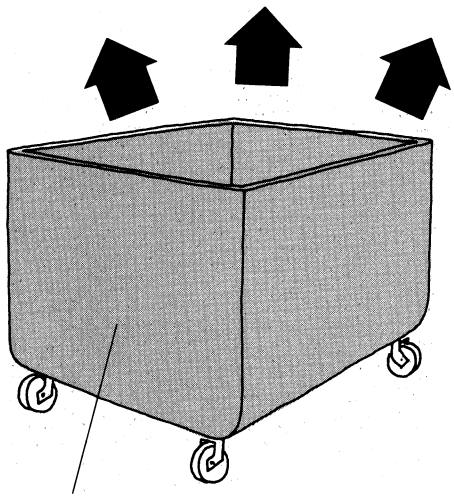
PLATES WITH FREE EDGES PRODUCE LESS LOW FREQUENCY NOISE

If a plate vibrates with free edges, pressure equalization takes place between the two sides of the plate, thus reducing sound emissions. Enclosing the corners prevents pressure equalization and the sound emission is greater, especially at low frequencies. For example, loudspeakers produce more bass if they are enclosed in a cabinet.

Principle







materials transport cart
of sheet metal

Example

Bumps in the floor produce noise from the bottom and side plates of a cart when the cart is pushed. Sound is also emitted when material strikes the bottom of the plate. Pressure equalization only takes place at the top edges of the side plates.

Control Measure

The walls are replaced by new ones constructed with a pipe frame. Plates are fastened with a gap between the plates and the frame. Pressure equalization takes place along all the edges, and the low frequency noise is reduced.